

Region 3 GPRA Baseline RCRA Corrective Action Facility

Occidental Chemical Corporation

1657 River Road
Delaware City, DE 19720
Congressional District 1
EPA ID #: DED003913266
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Current Progress at the Site

This chlorine manufacturing facility is approximately 38 years old and is located on the banks of the Delaware River, along River Road, just south of Red Lion Creek. The facility is located in a heavily industrialized area, and is situated approximately three miles northwest of Delaware City, Delaware.

In June 1991, EPA issued a RCRA administrative order directing the company to proceed with site investigation and cleanup activities. EPA and the facility are working jointly to complete the requirements of the order, which include:

- Conduct a RCRA Facility Investigation (RFI) of all spills and releases of hazardous waste or hazardous constituents to provide more in-depth information, and to evaluate remedial technologies that may be effective for cleaning up contaminated areas at the facility;
- Complete Interim Measures (short-term actions) to address contaminated soils, sediments, surface or groundwater that may have been impacted by a release of hazardous waste or hazardous constituents;
- Complete a Corrective Measures Study (CMS) to propose final cleanup actions needed for the facility.

Phase I of the RFI was completed in 1995. One interim measure was completed at the facility in late 1995-1996 to remove and treat mercury contaminated soils that were found during an upgrade to the wastewater treatment portion of the site. Phase II of the RFI was completed in 2000 and EPA issued approval of the Final Phase II RFI Report in May 2001. EPA and Occidental developed a plan to proceed with various interim measures activities based on the findings of the RFI work. Between 2000 and 2002 several interim measures activities were completed or initiated at the facility to address specific areas of concern that require further investigation and/or remediation. These activities included the excavation and removal of contaminated sediments and soils from onsite stormwater drainage channels and a sand blasting area at the plant, as well as the development of a Standard Operating Procedure to prevent worker exposure to mercury contamination in the process area at the plant. Additional fieldwork was completed between 2002 and 2003 to collect data needed to design groundwater containment remedies for two areas of the site.

The construction of the groundwater collection and treatment system associated with the groundwater barriers (or slurry walls) was completed in 2004 with operations beginning in the fall of 2004. Construction of additional interim measures (in situ treatment and excavation work) was completed in the Fall of 2003 to address the following areas of concern at the facility: (1) soil and shallow groundwater contamination from the Standard Chlorine Pipeline, and; (2) DNAPL contamination outside of Waste Lake 1. Occidental will continue to implement and monitor these two interim measures, and report the findings to EPA and DNREC. A performance monitoring program for the groundwater containment measures began in January

2004, and will continue for the next several years. Additional measures to address contaminated sediments in the OxyChem Tributary to Red Lion Creek were proposed in the spring of 2004 via the submittal of an Interim Measures Workplan, and data collection activities were completed in the OxyChem Tributary and Red Lion Creek in the summer and fall of 2004. A cap design for the Waste Lake 1 area was submitted in July 2004, and construction of the cap was completed between October and December 2004. EPA is currently reviewing a One-Year Performance Monitoring report for the groundwater containment measures. This report provides an evaluation of the effectiveness of the barrier walls in controlling the migration of contaminated groundwater. EPA is also currently reviewing the findings of additional data collection work completed in the OxyChem Tributary and Red Lion Creek. EPA and OxyChem will work together to develop a strategy to address contaminated sediments that are present in these surface water bodies. EPA is also currently evaluating the progress made to date with the removal and monitoring of a localized area of DNAPL contamination that is present outside of the barrier wall at the Waste Lake 1 portion of the site. Additional fieldwork and data collection were completed in the spring of 2005 at the site to monitor and further evaluate options for this area. Once the conditions at the facility are stabilized by completion of these interim measures, a risk assessment and Corrective Measures Study will be completed to evaluate and select an appropriate final remedy for the site.

Site Description

Since 1965 when the facility was built and operated by Diamond Shamrock, it has manufactured chlorine, hydrogen, sodium hydroxide, and potassium hydroxide by the electrolysis of sodium chloride and potassium chloride brines. The facility also operated a polyvinylchloride (PVC) plant which manufactured resins between 1966 and 1982. Additional activities conducted onsite include groundwater monitoring for the New Brine Sludge Landfill (regulated by Delaware Department of Natural Resources and Environmental Control) and wastewater treatment operations.

Site Responsibility

RCRA Corrective Action activities at this facility are being conducted under the direction of EPA Region 3 with assistance from the State.

Contaminants

The main contaminants that are likely to be present in the soils, surface water, sediments, and groundwater are volatile organics such as benzene, chlorobenzene, vinyl chloride; heavy metals such as mercury, arsenic, beryllium, manganese; and polycyclic aromatic hydrocarbons (PAHs).

Community Interaction

The Occidental Chemical Corporation Site borders the Delaware River and Red Lion Creek and is situated in a heavily industrialized area north of the intersection of Delaware Routes 72 and 9 (River Road). The facility is adjoined by several industrial operations: Motiva Enterprises (former Texaco refinery) to the south; Metachem to the west; Kaneka to the southwest; and, Oriole Chemical Carrier and Chloromone (commercial packaging and transport companies) to the northwest. To date, there has been little interest expressed in this site by the local community.

Institutional Controls

No institutional controls are currently in place.

Government Contacts

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For more information about EPA's corrective action webpage, including Environmental Indicators, please visit our site at: www.epa.gov/reg3wcmd/correctiveaction.htm